

Dentigerous Cyst Associated with an Impacted Deciduous Molar: A Rare Case Report

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Abstract

A 14-year-old girl was referred to the department of Pedodontics and Preventive Dentistry, Sudha Rustagi College of Dental Sciences and Research, Faridabad with the complaint of pain and swelling in upper right back tooth region since 3 - 4 months. Intraoral clinical examination revealed a firm, diffused, tender buccal swelling in the maxillary posterior region extending from distal to 1st premolar to mesial of 1st molar (measuring 2.0 x 1.5 cm.) IOPAR revealed retained impacted deciduous molar on upper right side (55). Panoramic radiograph revealed a large, well defined unilocular radiolucent lesion with sclerotic borders in the posterior maxilla. The clinical presentation and subsequent investigations led to the final diagnosis of dentigerous cyst associated with Impacted deciduous molar.

Keywords: Dentigerous Cyst; Impacted Molar; CBCT; Enucleation

Background

Dentigerous cysts are the most common developmental cysts of the jaws and the second most common type of odontogenic cysts after radicular cysts [1]. Dentigerous cyst, also known as follicular cyst, is caused by fluid accumulation between the reduced enamel epithelium and the enamel surface of a formed tooth and it originates by separation of the follicle from around the crown of an unerupted tooth [2].

Dentigerous cyst may result into possible complications which include:

- Permanent bone deformation or pathologic bone fracture;
- Bone expansion and destruction;
- Loss of permanent teeth; and
- Development of ameloblastoma squamous cell carcinoma and mucoepidermoid carcinoma [3].

Mandibular third molars, maxillary canines and mandibular premolars are involved most frequently. Rarely, a dentigerous cyst is associated with odontome, deciduous teeth and supernumerary teeth [4]. We hereby report a rare case of a 14-year-old girl with dentigerous cyst associated with an impacted deciduous molar.

Case Report

A 14-year-old girl (Figure 1) was referred to The Department of Pedodontics and Preventive Dentistry, Sudha Rustagi College of Dental Sciences and Research, Faridabad with the complaint of pain and swelling in upper right back tooth region since 3 - 4 months. At the time of his presenting, the patient had no systemic disease.

Figure 1

Extra-oral examination revealed the presence of diffuse, soft, tender swelling on the right side of the cheek with no TMJ pain or clicking. Intraoral clinical examination revealed a firm, diffused, tender buccal swelling in the maxillary posterior region extending from distal to 1st premolar to mesial of 1st molar (measuring 2.0 x 1.5 cm) (Figure 2A and 2B).

Figure 2

Investigations

Radiographic investigation was carried out to confirm type and extent of cystic lesion.

IOPAR revealed retained impacted deciduous molar on upper right side (55) (Figure 3).

Figure 3

Panoramic radiograph revealed a large, well defined unilocular radiolucent lesion with sclerotic borders in the posterior maxilla. The lesion extended between distal root of right second premolar to the mesial root of 1st molar and just superior to the maxillary sinus, measuring approximately 2.0 x 1.5 cm (Figure 4).

Figure 4

CBCT scan showed

- Molar shaped supernumerary tooth in right posterior maxilla in the space between 14 and 16 and buccal to palatally displaced 15. Crown of the tooth is at apical third level of adjacent 14 and 16 while three roots are going superiorly in contact with floor of the sinus (No cortical outline separation noted between roots and floor of sinus).
- A well defined non-corticated unilocular hypodense lesion seen surrounding the crown of impacted supernumerary tooth, extending from distal root surface of 14 to mesial root surface of 16 with maximum dimensions of 14.5*16.3*13.5 mm M-D, S-I and B-P respectively.
- Superiorly lesion is surrounding the crown of impacted SN tooth upto the floor right maxillary sinus and inferiorly upto the crestal bone level in 15 region.
- Lesion involves buccal cortical plate in 15 region and palatally extending upto buccal root surface of palatally displaced 15.
- No root resorption of adjacent teeth involved.

Overall radiograph impression was Infected Benign Odontogenic Cyst wrt impacted deciduous teeth in 15 region (Figure 5A and 5B).

Differential diagnosis

On the basis of these clinical and radiographic characteristics, differential diagnosis included the hypothesis of:

- Radicular cyst,
- Dentigerous cyst,
- Eruption hematoma,
- Calcifying odontogenic cyst,
- Odontogenic keratocyst.

Figure 5A

Figure 5B

Figure 6

Treatment

The clinical presentation and subsequent investigations led to the final diagnosis of dentigerous cyst associated with impacted deciduous molar. Enucleation was performed under local anesthesia with a surgical curette and the impacted deciduous molar associated with the dentigerous cyst was removed (Figure 6A-6D). It was then sutured with 3-0 black silk suture and the suture was removed after 7 days. Post-operative healing was satisfactory and recurrence did not occur. The patient had been advised orthodontic management for malposed maxillary second premolar (15).

Surgically enucleated specimens were sent for histopathological evaluation. Histopathology report shows cystic lumen lined by highly fragile epithelium. The thin epithelium lining is made up of flat cells of 2 - 4 layers. It is proliferating exhibiting arcading pattern and is disrupted at most places. Capsule is inflamed compris-

ing of chronic inflammatory cells infiltrate, dilated vascular channels and few odontogenic rests. Thus, suggestive of inflammatory dentigerous cyst.

Discussion and Conclusion

Early diagnosis of this type of cyst in children is important, as growth can be rapid and can cause bone fractures and deformation [5]. Eruption cysts usually do not require treatment and the affected tooth erupts normally. In the case of dentigerous cysts, however, treatment is always necessary [6].

Children have a much greater capacity than adults to regenerate bone and teeth with open apices have a greater eruptive potential. These factors should make one consider large dentigerous cysts in children as entities distinct from those in adults, with much better prognosis for the teeth involved [7].

The aim of treatment for dentigerous cysts is complete elimination of pathology and maintenance of dentition with minimal surgical intervention [8]. Recently-defined criteria for selecting the treatment modality refer to the cyst size and location of the cyst, patient age, dentition involved, stage of root development, position of the involved tooth in the jaw and its relation to the adjacent teeth and involvement of adjacent vital structure [9]. Surgical treatment of dentigerous cysts usually includes enucleation of the lesion

along with the removal of associated teeth [10]. This approach is favored in cases involving impaction of a single tooth, such as a wisdom tooth in an adult or impacted primary tooth in permanent dentition as in the this case [11].

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